Release notes for ENDF/B Development n-054_Xe_123 evaluation

April 26, 2017

- `fudge-4.0` Errors:

  1. Calculated and tabulated Q values disagree.
     reaction label 22: n[multiplicity:'2'] + Xe122 + gamma (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -8001567.4347229 eV vs -7964868. eV!
     ```

  2. Calculated and tabulated Q values disagree.
     reaction label 23: n[multiplicity:'3'] + Xe121 + gamma (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -18955110.94992065 eV vs -18918410. eV!
     ```

  3. Calculated and tabulated Q values disagree.
     reaction label 24: n + H1 + I122 + gamma (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -6490925.912231445 eV vs -6457495. eV!
     ```

  4. Calculated and tabulated Q values disagree.
     reaction label 25: Xe124 + gamma (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: 10446169.60618591 eV vs 10482870. eV!
     ```

  5. Calculated and tabulated Q values disagree.
     reaction label 26: n + He4 + Te119 + gamma (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -1547673.654464722 eV vs -489024.2 eV!
     ```

  6. Calculated and tabulated Q values disagree.
     reaction label 27: n[multiplicity:'2'] + H1 + I121 + gamma (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -14355011.0665741 eV vs -14321580. eV!
     ```

  7. Calculated and tabulated Q values disagree.
     reaction label 28: H1[multiplicity:'2'] + Te122 + gamma (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -1471310.917953491 eV vs -1441148. eV!
     ```

  8. Calculated and tabulated Q values disagree.
     reaction label 29: H1 + (I123_s ->I123 + gamma) (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: 3443676.757797241 eV vs 3477108. eV!
     ```

  9. Calculated and tabulated Q values disagree.
     reaction label 30: He4 + (Te120_s ->Te120 + gamma) (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: 8743788.110946655 eV vs 9802437. eV!
     ```

  10. Multiplicity does not match sum of linked product multiplicities!
      multiplicitySum label 5: n[multiplicity:'2'] + Xe122 + gamma total gamma multiplicity (Error # 0): summedMultiplicityMismatch

      ```
      WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 6.61%
      ```

- `njoy2012` Warnings:

1. Evaluation has no resonance parameters given
   unresr...calculation of unresolved resonance cross sections (0): No RR

```
---message from unresr---mat 5422 has no resonance parameters
                         copy as is to nout
```

2. Recoil is not given, so one-particle recoil approximation used.
   heatr...prompt kerma (0): HEATR/hinit (4)

```
---message from hinit---mf6, mt 16 does not give recoil za= 54122
                         one-particle recoil approx. used.
```

3. Recoil is not given, so one-particle recoil approximation used.
   heatr...prompt kerma (1): HEATR/hinit (4)

```
---message from hinit---mf6, mt 17 does not give recoil za= 54121
                         one-particle recoil approx. used.
```

4. Recoil is not given, so one-particle recoil approximation used.
   heatr...prompt kerma (2): HEATR/hinit (4)

```
---message from hinit---mf6, mt 22 does not give recoil za= 52119
                         one-particle recoil approx. used.
```

5. Recoil is not given, so one-particle recoil approximation used.
   heatr...prompt kerma (3): HEATR/hinit (4)

```
---message from hinit---mf6, mt 28 does not give recoil za= 53122
                         one-particle recoil approx. used.
```

6. Recoil is not given, so one-particle recoil approximation used.
   heatr...prompt kerma (4): HEATR/hinit (4)

```
---message from hinit---mf6, mt 41 does not give recoil za= 53121
                         one-particle recoil approx. used.
```

7. Recoil is not given, so one-particle recoil approximation used.
   heatr...prompt kerma (5): HEATR/hinit (4)

```
---message from hinit---mf6, mt 91 does not give recoil za= 54123
                         one-particle recoil approx. used.
```

8. Recoil is not given, so one-particle recoil approximation used.
   heatr...prompt kerma (6): HEATR/hinit (4)

```
---message from hinit---mf6, mt103 does not give recoil za= 53123
                         one-particle recoil approx. used.
```

9. Recoil is not given, so one-particle recoil approximation used.
   heatr...prompt kerma (7): HEATR/hinit (4)

```
---message from hinit---mf6, mt107 does not give recoil za= 52120
                         one-particle recoil approx. used.
```

10. Recoil is not given, so one-particle recoil approximation used.
    heatr...prompt kerma (8): HEATR/hinit (4)

```
---message from hinit---mf6, mt111 does not give recoil za= 52122
                        one-particle recoil approx. used.
```

11. Evaluation has no resonance parameters given
purr...probabalistic unresolved calculation (0): No RR

```
---message from purr---mat 5422 has no resonance parameters
                        copy as is to nout
```